

Remarks:

Applicant appreciates the Examiner's time in a telephone interview, which helped the Applicant understand the Examiner's position.

Claim 1 has been rejected based on Curtis in view of Pettersson. Curtis teaches reinforced lumber, in which a rod is glued into the lumber to strengthen it. Pettersson teaches a tongue and groove joint which uses a spacer 12 to prevent the tongue from completely aligning with the groove, so that, if the boards expand after assembly, the spacer can collapse to absorb the expansion while preventing the boards from pushing against each other and warping. Pettersson is not a glued joint, as it provides for movement of the boards relative to each other after they are assembled.

The rejection states several bases, each of which will be dealt with in turn.

First, it states that the land 14 of Figure 5 of Curtis could be interpreted to be a crush rib. There is no suggestion in Curtis that the lands 14 would be crushed at any point during the assembly or use of the product, and it is difficult to imagine how that could happen, given the layer of glue between the lands 14 and the insert. In addition, the lands 14 in Figure 5 run cross-wise to the length of the board, so they prevent the core piece from having substantially the same profile from its first end to its second end, as recited in claim 1. Therefore, Figure 5 of Curtis does not teach or suggest the invention recited in claim 1.

Next, the rejection gives three reasons that a person of ordinary skill in the art would be led to incorporate the rib of Pettersson into the Curtis product, and the Examiner has said that, in any situation in which the two references were combined, there inherently would be deformation of the rib. The three reasons are as follows:

1. In order to allow expansion and contraction of the composite board.
2. To facilitate adhesion by keying the two pieces together or increasing surface area.
3. To provide a spacing to facilitate providing a particular glue thickness.

None of those proposed reasons would suggest such a combination to a person of ordinary skill in the art.

First, it should be noted that the Pettersson teaching is not for use in a glued joint, and Curtis is a glued joint. Pettersson's invention only functions as intended if the parts are able to shift freely relative to each other, which is not the case in a glued joint. Thus, a person of ordinary skill in the art would have no

reason to look to the teaching of Pettersson to improve on the glued joint of Curtis.

Responding first to the first stated reason for combining the two references, namely to allow for expansion and contraction of the board, a person of ordinary skill in the art would not add the rib of Pettersson to any of the designs taught in Curtis to allow for expansion and contraction of the composite board. Every embodiment of Curtis involves gluing a reinforcing rod into the wooden member. In every embodiment, the glue takes up the space between the rod and the wood. Adding the rib of Pettersson between the rod and the wooden channel would have no beneficial effect with respect to expansion and contraction, even if the wood were to expand and contract, because the glue would hold the parts fixed relative to each other and would prevent the rib from collapsing in order to compensate for expansion of the wood. Thus, a person of ordinary skill in the art would not add the rib of Pettersson to the design of Curtis for the purpose of allowing for expansion and contraction of the board.

The second stated reason is to key the parts together or increase the surface area for adhesion between the reinforcing rod and the wooden channel. This purpose for the rib of Pettersson is not taught or suggested anywhere in the Pettersson reference, as the rib in Pettersson is for the purpose of keeping the wooden pieces spaced apart, so they do not come into alignment, not for the purpose of increasing adhesion or for keying. It is intended for use in a joint in which the parts are free to move relative to each other, not a joint in which the parts are fixed relative to each other by gluing or keying. Thus, there is no suggestion for the person of ordinary skill in the art to add the rib of Pettersson to the design of Curtis for the purpose of keying the parts together or increasing the surface area for adhesion. In addition, these purposes would not be advanced by inserting the rib of Pettersson into the channel of Curtis.

If Pettersson's rib were placed into the channel of Curtis, it would decrease the surface area for adhesion, not increase the surface area, because the surface area for adhesion would be decreased anywhere the rod came into contact with the rib instead of coming into contact with the glue, and such contact would be required in order to cause any crushing of the rib as proposed by the Office Action. With respect to keying the parts together, Curtis teaches the use of cross-wise recesses or indentations to allow the glue to key the pieces together "thus reducing the likelihood of any longitudinal shifting between the beam and rod when the beam is bent under load." Adding the rib of Pettersson would not serve that keying purpose described by Curtis. Since Pettersson teaches the use of a longitudinal rib, putting that rib into the design of Curtis would do nothing to prevent longitudinal shifting between the beam and rod as suggested by Curtis. Thus, the second stated reason to add the rib of Pettersson to the design of Curtis would not be a motivation for a person of ordinary skill in the art to combine those references.

The third reason stated in the Office Action is to provide a spacing to facilitate a particular glue thickness. This purpose also would not be served by adding the rib of Pettersson to the channel of Curtis. If Pettersson's rib were inserted into the channel, the rod, having a curved lower surface, would not be able to balance on the point of the rib, so it would roll or tip to one side or the other, which would result in a greater spacing on one side of the rod than on the other, thereby providing an uneven glue thickness and defeating the stated purpose. Thus, it would not be obvious to a person of ordinary skill in the art to add the rib of Pettersson to the channel of Curtis for the purpose of facilitating a desired glue thickness.

Thus, a person of ordinary skill in the art would not be motivated to insert the rib of Pettersson into the channel of Curtis for any of the reasons suggested in the Office Action. Furthermore, even if the rib of Pettersson were inserted into the channel of Curtis, it would not result in the invention recited in claim 1.

Claim 1 recites the following:

1. A process for making a composite profile, including at least one core piece and one insert piece, each having a top surface and a bottom surface, and a length extending from a first end to a second end, and each having substantially the same profile from its first end to its second end, wherein said core piece defines a first channel sized to receive said insert piece, said channel extending lengthwise from said first end to said second end, comprising the steps of:

providing a crush rib between the bottom surface of the insert piece and the channel; and

pressing said insert piece into said first channel to deform the crush rib until the top surfaces of the insert and the core are aligned.

Claim 1 not only requires the insert to be pressed into the channel to deform the crush rib, which is not taught or suggested by the Pettersson and Curtis references. It also requires the insert to crush the rib until the top surfaces of the insert and the core are aligned. There is nothing in Pettersson or Curtis to suggest the crushing of a rib to bring the top surfaces of two parts into alignment. In fact, the Pettersson reference specifically teaches the use of a rib to prevent surfaces from coming into alignment, not to facilitate their alignment. The whole purpose of the rib in Pettersson is to prevent the surfaces 15 and 13 of Figure 3 from coming into alignment or abutting, which would cause warping as in the prior art shown in Figure 2. The whole purpose of Pettersson is to prevent that alignment that occurred in the prior art in order to prevent warping of the boards. Thus, the claimed step of pressing the insert into the channel to deform the crush rib until the top surfaces of the insert and the core are aligned goes completely against the teaching of Pettersson. A person of ordinary skill in the

art would follow the teaching of a reference, not go against what the reference teaches.

There also is nothing in Curtis to suggest crushing a rib to bring the top surfaces of the insert and core into alignment. In the embodiments of Curtis in which the top surfaces are in alignment, the alignment is achieved by displacing glue, not by crushing a rib. If Curtis added a rib and crushed it to bring the top surfaces into alignment, it would reduce adhesion between the parts and would eliminate the desired space for the glue between the rod and the channel. Thus, adding the rib of Pettersson would reduce the effectiveness of the design taught by Curtis. It cannot be considered obvious to a person of ordinary skill in the art to modify a design to make it less effective and less functional than it was in the original teaching.

For all the foregoing reasons, claim 1 recites an invention that is both novel and unobvious in view of the prior art.

The foregoing explanation of lack of motivation and failure of the references to teach the claimed crushing to bring the parts into alignment applies also to independent claims 2, 10 and 11. Since none of the suggested motivations for combining the references are proper and since there is no teaching in the prior art references to include the step of crushing a rib to bring the top surfaces of the insert and core into alignment, Applicant respectfully requests allowance of all the claims now pending in the present application.

Respectfully submitted,



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